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Fact Sheet

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Intel® Centrino® Duo Mobile Technology

Intel® Centrino® Duo Mobile Technology is Intel's next-generation mobile platform enabling a whole new generation of thin and light notebook PCs that are designed to enable breakthrough performance and improved battery life over previous generation Intel® Centrino® Mobile Technology based platforms. Intel® Centrino® Duo Mobile Technology delivers significant improvements to the four vectors of mobility by enabling better performance, enhanced wireless capabilities, improved battery life and smaller, lighter form factors.

Intel® Centrino® Duo Mobile Technology based laptops also mark a dramatic step forward with three next-generation components working together to deliver outstanding mobile computing capabilities:

- **Intel® Core™ Duo Processor**, Intel's first mobile-optimized dual-core processor built on Intel's industry leading 65-nanometer process technology.
- **The Mobile Intel® 945 Express Chipset Family**, the next-generation Intel Hub Architecture for the notebook PCs using Intel® Centrino® Duo Mobile Technology.
- **The Intel PRO/Wireless 3945ABG Network Connection**, Intel's next-generation wireless network connection advancing WLAN performance of standard Wi-Fi networks.

Intel® Centrino® Duo mobile technology featuring the Intel® Core™ Duo processor helps businesses be more productive with breakthrough dual-core responsiveness and enables consumers to enjoy a thrilling and immersive digital entertainment experience.

The Ideal Tool for Business

Intel® Centrino® Duo Mobile Technology laptops deliver breakthrough mobile capabilities to help businesses respond, offering dual-core processing capabilities, enabling enhanced manageability and security for today's increasingly mobile business environment; and enabling improved battery life to increase mobility and productivity; and extended connectivity options to give employees more flexibility to collaborate with clients and colleagues.

Intel® Centrino® Duo Mobile Technology laptops enable IT managers to:

- Manage your environment with patches that can be delivered in the background without user disruption
- Enjoy improved WLAN throughput performance and better load balancing with smart AP selection capabilities
- Manage multiple WLAN networks with a simplified user interface
- Manage platform longevity and costs with Intel® Stable Image Platform Program
- Be prepared for Windows Vista* deployment with exceptional graphics ready to experience the Aero user interface

Road warriors and mobile workers will also appreciate the ability to simultaneously run demanding applications while security and virus protections run in the background and collaborate with colleagues and suppliers using e-mail, application sharing, instant message and making PC phone calls over the Internet.

Revolutionizing Mobile Digital Entertainment

Intel® Centrino® Duo Mobile Technology based laptops deliver a revolutionary mobile dual-core design with enhanced high-definition capabilities for an immersive, personalized entertainment experience, which enables improved battery life for the on-the-go mobile lifestyle and expanded connectivity options for greater flexibility to communicate.

Intel® Centrino® Duo Mobile Technology based laptops allow consumers to:

- Stream or download your favorite music and enjoy faster file conversions of your CD's to MP3 format
- Get premium high definition audio and video with the Intel® 945 Express Chipset and enabled Intel® High Definition Audio so you can enjoy your favorite music on the go, experience a premium home theater environment and immerse yourself in your favorite games
- Experience high quality, smooth video playback and support for key 3D features with great graphics enabled by Intel® Graphics Media Accelerator 950
- Enjoy a higher quality TV experience on your laptop enabled by the Mobile Intel® 945 Express Chipset and a TV tuner, PVR, or outside-in connection
- Express your creative potential by producing and editing your home movies and photos
- Keep in touch with your friends & family with high quality VoIP calls over wireless LAN enabled by Intel® PRO/Wireless 3945ABG Network Connection

Next-Generation Components for Better Mobile Computing

Intel® Core™ Duo Processor

Intel® Core™ Duo Processor is Intel's first mobile-optimized dual-core processor built on Intel's industry leading 65-nanometer process technology. The Intel® Core™ Duo Processor delivers power efficient breakthrough mobile performance and responsiveness to execute multiple threads and run multiple intense applications simultaneously.

Key features of the Intel® Core™ Duo Processor include:

- Intel® Smart Cache – 2MB L2 cache with Advanced Transfer Cache Architecture delivering a smarter and more efficient cache and bus design to enable enhanced dual-core performance and power savings
- Intel® Digital Media Boost - Micro-architectural enhancements that include instruction optimizations and performance enhancements to accelerate a diverse variety of processing-intensive tasks, such as audio/video processing, image processing, 3D graphics, and scientific calculations.
- Intel® Dynamic Power Coordination with Dynamic Bus Parking - Dual-core on demand, coordinated performance with enhanced low power management featuring Dynamic Bus Parking. This enables platform power savings by allowing the chipset to power down with the processor in these low-frequency mode states.
- Enhanced Intel® Deeper Sleep with Dynamic Cache Sizing - Allows the processor to lower voltage below the Deeper Sleep minimum voltage to enable enhanced power savings. Dynamic Cache Sizing is a new power savings mechanism that enables the Intel® Smart Cache to dynamically flush system memory based on demand or during periods of inactivity.
- Intel® Advanced Thermal Manager - A new thermal management system delivering enhanced accuracy and more precise acoustic control to enable quieter, cooler, thinner system designs.
- Power-Optimized 667MHz System Bus - Utilizes Source-Synchronous Transfer (SST) of address and data to enable improved performance by transferring data at 4X bus clock. Advanced Gunning Transceiver Logic (AGTL+) signaling technology, a variant of GTL+ signaling technology, delivers low power enhancements.
- Enhanced Intel SpeedStep® Technology Support - Multiple performance modes enable optimum performance at the lowest power, using real-time dynamic switching of the voltage and frequency between multiple performance modes based on CPU demand.
- New Intel 65nm process technology - Smaller transistors enabling more logic and more frequency headroom for increased performance.

Mobile Intel® 945 Express Chipset Family

The Mobile Intel® 945 Express Chipset Family is the next-generation Intel Hub Architecture for the notebook PCs using Intel® Centrino® Duo Mobile Technology. The Mobile Intel® 945GM chipset with Intel Graphics Media Accelerator 950 delivers exceptional improvements in graphics performance over the previous generation chipset, the Intel® 915GM.

Key features include:

- Intel® Graphics Media Accelerator (GMA) 950 – Intel's next generation (Gen 3.5) Integrated graphics with 250MHz graphics core frequency (compared to 200MHz for 915GM core), enabling further improvements in playback of 3D graphics such as games or CAD renderings.
- Intermediate Z in Classic Mode – Increases performance for games and other 3D applications by removing polygons that will not contribute to the final picture, thereby enabling better graphics performance by reducing the number of calculations to be performed.

- Full D-Connector Support (D1-D5) – Enables ease of use for optimally enjoying TV (any TV supporting D connector - have to manually configure without) content through D-connector enabled devices. Any TV including HDTV.
- Adaptive De-interlacing – Removes some of the adverse visual artifacts associated with converting interlaced content (i.e. broadcast TV on progressive displays (i.e. monitors), enabling enhanced visual quality of interlaced content.
- COPP/HDCP/CGMS-A Support – Enables users to view protected premium video content while at the same time providing content protection.
- 667MHz Power Optimized System Bus – enables up to 25% faster transfer rate, as compared to 533MHz supported on previous generation for increased performance.
- Intel® Display Power Saving Technology 2.0 – Reduces display backlight power with minimal visual impact to the end user, enabling improved battery life.
- Intel® Rapid Memory Power Management – Provides chipset and DIMM power savings by putting memory into a reduced power state when display is still active on DDR2 based platforms.
- Intel® Automatic Display Brightness – Automatically adjusts the backlight intensity of the display according in response to ambient light levels, reducing power consumption with minimal visual impact to the user.
- Intel® Matrix Storage Technology with Link Power Management – enables enhanced performance, power management and data protection for the storage subsystem

Intel PRO/Wireless 3945ABG Network Connection

The Intel PRO/Wireless 3945ABG Network Connection is Intel's next-generation wireless network connection advancing WLAN performance of standard Wi-Fi networks. It supports enhanced features that make applications more aware, connected, and responsive, delivering a better on-the-go end-user experience. Available in a smaller PCIe mini-card form factor, the Intel PRO/Wireless 3945ABG Network Connection helps enable lighter and thinner notebooks. With the available Intel® PROSet/Wireless software version 10, enterprise users can take advantage of new IT administration tool capabilities and an API built around 802.11e QoS for VoIP.

Key features include:

- Enhanced AP Selection – More intelligent AP selection based on link quality parameters such as signal strength; transmit rates, channel load, and connection failures, enabling selection of APs that provide better performance for all 802.11x.
- Flexible Roaming – Ability to specify when the client will roam to a different access point. For example, favoring higher performance when you need additional bandwidth for downloading large files, and favoring signal strength when a stable connection is needed, such as for gaming.
- 802.11e QoS Support – Latest standards-based Quality of Service (QoS) support for 802.11e, supports delivery of real-time applications such as VoIP or streaming video over a wireless link
- Intel® PROSet/Wireless Software Version 10 provides a GUI interface that improves ease of use and helps end users and tech support troubleshoot problems more efficiently

- Business Class Wireless Suite – Enable new collaboration applications and deliver high performance wireless LAN capabilities, giving you the traditional strengths of wired in a wireless environment.
- Wake on Wireless Local Area Network (WoWLAN) – Enables IT to wake up the client from low power state as long as the client remains associated with the same AP, which could allow IT to download a critical patch or notify the client of an incoming VoIP call when notebook is powered down.
- Noise Interference Filter – Detects and avoids overload conditions in the receiver, non 802.11 signal like microwave or cordless phone, and unwanted out-of-band 802.11x signals from other clients, helping maintain higher throughput under adverse conditions.
- Supports Cisco* Compatible Extensions (such as LEAP, EAP-FAST and CKIP) – Based on PC manufacturer's availability and validation, this enables interoperability and compatibility with latest Cisco WLAN infrastructure.

⁺System performance, battery life, high-definition quality and functionality, and wireless performance and functionality will vary depending on your specific operating system, hardware and software configurations. System performance is measured by MobileMark 2005. References to improved battery life, if applicable, refer to previous generation Intel® Centrino® technology platforms. Wireless connectivity and some features may require you to purchase additional software, services or external hardware. Availability of public wireless LAN access points is limited, wireless functionality may vary by country and some hotspots may not support Linux-based Intel Centrino mobile technology systems. See http://www.intel.com/products/centrino/more_info for more information *Other names and brands may be claimed as the property of their respective owners.*